APPENDIX A

OCS Source Determination Supporting Documentation

1.0 OVERVIEW

Revolution Wind, LLC (Revolution Wind), a 50/50 joint venture between Orsted North America, Inc. and Eversource Investment, LLC, has submitted an Outer Continental Shelf (OCS) air permit application to support the construction and operation of the Revolution Wind Farm (RWF) Project (the Project). The air permit application has been prepared by Revolution Wind in accordance with OCS air permit regulations promulgated by the United States Environmental Protection Agency (EPA) in Title 40 Part 55 of the Code of Federal Regulations (40 CFR 55).

Revolution Wind is proposing to install up to 100 wind turbine generators (WTGs) and the associated offshore infrastructure required to transmit the power generated by the WTGs to an onshore interconnection. These Project components require the installation of two offshore substations (OSSs) installed on platforms, inter-array cables (IAC) connecting the WTGs, interconnection cabling to link the OSSs (OSS-Link Cable), and a bi-directional offshore export cable to bring the power from the OSSs to shore.

The Project would be located in federal waters on the OCS approximately 15 nautical miles (nm) southeast of Point Judith, Rhode Island, 13 nm east of Block Island, Rhode Island, approximately 7.5 nm south of Nomans Land Island National Wildlife Refuge (uninhabited island), and between approximately 10 to 12.5 nm south/southwest of varying points of Rhode Island and Massachusetts coastlines. Construction is anticipated to begin in 2023 following the receipt of all necessary approvals. The construction period is expected to occur over 12 to 18 months. Once commissioned, the Project is expected to have an operational life of 20 to 35 years.

During the construction and commissioning phase, the WTGs, OSSs and some associated vessels will likely constitute OCS sources.

During the operation and maintenance phase, the only permanent source of air emissions will be emergency generators installed on the OSSs (1 per OSS). Additional sources of air emissions include vessels the Project will utilize to conduct repair and maintenance activities on various Project components, including WTGs and OSSs.

This memorandum has been prepared to document the Project's air quality permitting approach to evaluating which equipment, if any, constitute an OCS Source during operations and maintenance ("O&M") phase of the project. These determinations are integral to proper permitting of the project and include defining the area within which vessel operations must be accounted for in emissions calculations, as well as a determination of which vessel operations must be included.

In each of two recent permitting actions (Vineyard Wind and South Fork), EPA determined that the entire group of WTG and OSS associated with the project constituted a single OCS source, during both the construction and commissioning phase and the O&M phase. Both referenced projects assumed the use of permanently installed backup diesel generators at each WTG during the O&M phase.

Based on the South Fork and Vineyard Wind permitting actions, EPA has preliminarily informed the Project that the same approach may be applied to this permit application. Furthermore, during a meeting with EPA on March 10, 2022, EPA indicated that it believed the WTGs are part of the OCS source during operation because of the remote possibility of the use of diesel-fired emergency generators on the WTGs and the possibility of fugitive emissions of the greenhouse gas ("GHG") sulfur hexafluoride ("SF6") from the switchgear.

In addition, EPA asserted that it prefers to maintain a single OCS source determination for the life of a project (i.e., a "once-in-always-in" policy to the determination of an OCS source).

This memorandum reviews the relevant regulatory and interpretive background and evaluates the distinguishing characteristics of the Project that are determinative in defining the Project (or portions of the Project) as an OCS source. As explained further below, the Project is distinguishable from the Vineyard Wind and South Fork projects in that the Project does not assume the use of permanent diesel generators on the WTGs during the operational life of the project. As such, the WTGs are not sources of emissions during O&M and are therefore not part of the OCS source. The WTGs should not be included in the OCS source once the O&M phase has commenced; only the individual OSS—which has a permanent emergency diesel generator—and an occasional jack-up vessel are the OCS sources during O&M.

2.0 REGULATORY BACKGROUND

OCS permitting involves the interaction of Clean Air Act ("CAA") requirements specific to the OCS with other CAA permitting requirements, including both EPA's New Source Review ("NSR") pre-construction and Title V operating permitting programs. Determining what regulatory requirements apply requires defining the scope of these programs with respect to a given collection of air pollutant emitting activities.

The first step in determining the applicable air permitting requirements is to define the OCS source. The EPA definition for OCS source in 40 CFR § 55.2 is as follows:

> "OCS source means any equipment, activity, or facility which:
>
> (1) Emits or has the potential to emit any air pollutant;
>
> (2) Is regulated or authorized under the Outer Continental Shelf Lands Act ("OCSLA") (43 U.S.C. §1331 *et seq.*); and
>
> (3) Is located on the OCS or in or on the waters above the OCS.
>
> This definition shall include vessels only when they are:
>
> (1) Permanently or temporarily attached to the seabed and erected thereon and used for the purpose of exploring, developing or producing resources therefrom, within the meaning of Section 4(a)(1) of OCSLA (43 U.S.C. §1331 *et seq.*); or
>
> (2) Physically attached to an OCS facility, in which case only the stationary sources aspects of the vessels will be regulated.

2.1 Relevant EPA Interpretations of the term "OCS source"

Subsequent guidance from EPA has clarified this definition, confirming that OCS sources may be temporary in nature and can be distinguished between construction and operational phases where emissions activities differ.

Letter from US EPA Region 2, Steven Riva, Chief Permitting Section Air Programs Branch to Robert Gibbs, Vice President Garden State Offshore Energy, October 15, 2010 ("Garden State Letter")

In 2010, EPA Region 2 evaluated OCS permit applicability as it related to the installation of a meteorological monitoring station buoy to support development of a wind farm for Garden State Offshore Energy (GSOE). GSOE proposed installation of the buoy to collect meteorological data to support a planned windfarm. EPA Region 2 evaluated the applicability of 40 CFR Part 55 as it related to the installation and operation of the buoy. The memorandum determined that the construction of the monitoring station buoy had a potential to emit and would therefore come under the definition of OCS source. However, EPA Region 2 determined that, once operational, the buoy would not be considered an OCS source, even if attached to the seafloor, because it does not have the potential to emit air pollutants.

This letter stated:

> "In light of the regulatory definition of an OCS source, the spar buoy itself, once constructed (i.e., during its operational phase) will not be an OCS source because even though attached to the seafloor, it has no potential to emit any air pollutant. The crew boat that will provide service and maintenance for the spar buoy, during the buoy project's operational phase will attach to the seafloor or to the buoy itself and will result in emissions. Even while attached to the spar buoy the crew boat is not an OCS source because the spar buoy by itself is not an OCS source." (See Garden State Letter at Page 3).

Letter from US EPA OAR, Karl Moor, Deputy Assistant Administrator for the Office of Air and Radiation, to Walid Masri, Program Director, West Coast Decommission Program, Chevron USA, Inc., January 19, 2021 ("Chevron Letter")

More recently, EPA responded to a request from Chevron USA, Inc (Chevron) requesting a determination of whether drilling platforms cease to be an OCS source during decommissioning, once they have all pollutant emitting activities removed (hereinafter, the Chevron Letter). Chevron contended that during the abandonment phase, once all pollutant-emitting equipment and all potential emission sources on the platforms were removed, it could surrender its existing operating permits because the platforms would have no emissions or potential to emit, and therefore would no longer satisfy the necessary criteria to be considered an OCS source in the definitions of the CAA Section 328(a)(4)(C) and 40 CFR § 55.2.

In addition, relying on several Environmental Appeals Board (EAB) decisions, Chevron contended that the support vessels associated with the platforms would not be considered OCS sources, or cause the platforms to continue to be considered OCS sources, because the support vessels constitute emissions of an OCS source only when there is an OCS source to which they can be attributed.

EPA concurred with Chevron's conclusions in both instances: (1) the platforms ceased to be OCS sources once they no longer had any activities with the potential to emit any air pollutant; and (2) support vessels also would not be considered direct sources of emissions because, as Chevron had argued, there would be no OCS sources to which they could be attributed.

Importantly, EPA concluded that a facility that previously was considered an OCS source can cease to be an OCS source when the definitional criteria are no longer met. EPA relied on a previously established concept that, once a definitional criterion in 40 CFR 55.2 is no longer met, an OCS source no longer exists. In other words, once the potential to emit facet of the OCS source definition was no longer met, the facility was no longer an OCS source and would no longer be treated as such. (Chevron Letter at Page 5). EPA further concluded that the definitions of a "stationary source" under NSR or Title V, apply only where there is an OCS Source, as defined by 40 CFR § 55.2. Since there was no OCS source, permitting regulations also would not apply.

Furthermore, EPA addressed the question of whether support vessels would continue to be considered sources of potential emissions from the platforms once those platforms cease to be OCS sources. It concluded they would not:

> Section 328(a)(4)(C) identifies three criteria each of which must be met for "any equipment, activity, or facility" to be considered an OCS source. The last criterion is clearly satisfied with regard to the Platforms because they continue to be located on the OCS…The criterion in Section 328(a)(4)(C) germane to this determination is whether the Platforms "emit[] or ha[ve] the potential to emit any air pollutant." Section 328(a)(4)(C) of the CAA further states that "[f]or the purposes of this subsection, emissions from any vessel servicing or associated with an OCS source, including emissions while at the OCS source or en route to or from the OCS source

> within 25 miles of the OCS source, shall be considered direct emissions from the OCS source." (EPA's added emphasis retained). This sentence in the definition of OCS source draws a clear distinction between the OCS source and any vessel servicing or associated with that source. Thus, the vessels in this context are not the OCS source, and the emissions from these types of vessels are not deemed to be emissions from an OCS source if there is no longer an OCS source present. For a vessel to service or associate with an OCS source, there must be equipment, an activity, or a facility that meets the three established defined OCS source criteria independent of such vessel." (Chevron Letter at Page 4)

Note that EPA modified its January 19, 2021 determinations in a follow-up letter to Chevron on April 20, 2021, to clarify that, under the facts of that situation, there was a possibility that future activity on the platform might be classified as an OCS source under certain conditions. However, the April 20, 2021 letter did not change the EPA's interpretation of the OCS source definition in the January 2021 letter.

2.2 Relevant Interpretations regarding definition of "air pollutant" within 40 CFR §55.2

In 1992, EPA interpreted its regulatory authority under section 328 of the CAA to be restricted to federal and state criteria pollutants, and pollutants regulated pursuant to PSD, and has limited the OCS rule to these pollutants. 57 Fed. Reg. 40804 (September 4, 1992).

In *Utility Air Regulatory Group v EPA*, 134 S. Ct. 2427 (2014), the United States Supreme Court severely limited the EPA's ability to interpret "air pollutant" to include GHG. The decision is based on the concept that the term "air pollutant" is narrowly interpreted and given context-appropriate meaning. The Supreme Court stated that a broader interpretation of "air pollutant" to include GHG would radically transform the PSD and Title V programs to make them unworkable.

2.3 Aggregation

Separate from but related to the definition and duration of an OCS Source is EPA's policy on source aggregation. Under EPA regulations, the agency considers three factors when determining what "pollutant-emitting activities" collectively constitute a single major stationary source: 1) whether the activities share the same industrial grouping (SIC code), 2) whether they are located on one or more contiguous or adjacent properties, and 3) whether they are under the control of the same person (or person under common control). *See* 40 CFR 52.2 l(b)(5); 40 CFR 5 l.165(a)(l)(i); 40 CFR 5 l.166(b)(5). For the purposes of this analysis, we assume the WTGs share the same SIC code and are under common control.

In determining whether activities on are one or more contiguous or adjacent properties, EPA's adjacency guidance stresses that there is no bright line outside of the oil and gas context, and that adjacency may vary depending on the nature of the industry. *See* U.S. EPA, "Interpreting 'Adjacent' for New Source Review and Title V Source Determinations in All Industries Other Than Oil and Gas" (Nov. 26, 2019) ("Adjacent Guidance"). More specifically, "EPA will consider properties that do not share a common boundary or border, or are otherwise not physically touching each other, to be "adjacent" only if the properties are nevertheless nearby, side-by-side, or neighboring (with allowance being made for some limited separation by, for example, a right of way)." Adjacent Guidance at 8. The guidance acknowledged the concern that sources should not be "over-aggregated in a manner inconsistent with the 'common sense notion of a plant' if adjacency were determined based on physical proximity alone. *Id*.

3.0 ANALYSIS

The first step in defining an OCS source is to identify any equipment, activity, or facility which emits or has the potential to emit any air pollutant. This mirrors the NSR regulatory structure, which includes all "pollutant-emitting activities" as being part of the "stationary source" that is subject to permitting. See 40 CFR 52.21(b)(6).

Based on the CAA, implementing regulations, and interpretive guidance referenced above, the Project envisions that during the O&M phase, only the OSSs (with accompanying permanent emergency generators) and any jack-up vessels would be OCS sources during operations. Individual WTGs, because they have no permanent source of criteria pollutants, would not properly be considered OCS sources, and thus would not be aggregated with other OCS sources. The WTGs would use battery backup systems instead of emergency diesel generators. As discussed earlier, a WTG may use a temporary diesel generator only in the rare event there were to be a grid outage, the WTGs were unable to produce power, and the integrated battery backup system was affected by a fault or otherwise lacked sufficient power.

3.1 Diesel Fired Emergency Generators

The remote possibility that diesel fired emergency generators might be used on the WTG(s) does not cause the WTGs to be part of the OCS source.

As discussed previously, EPA stated its preliminary position that the remote possibility of diesel emergency engines temporarily installed and operated on a WTG during O&M is an equipment or activity that emits or has the potential to emit any air pollutant would cause the WTG to be considered part of the OCS source.

Part 55 defined "potential emissions" as "the maximum emissions of a pollutant from an OCS source operating at its design capacity...". This definition mirrors 40 CFR §52.21 where EPA defined potential to emit (PTE) as "the maximum capacity of a stationary source to emit a pollutant under its physical and operational design." These definitions make clear that EPA intended PTE to reflect only the design of the process.

The remote possibility of grid outage requiring a diesel generator is not part of operational design and is therefore outside the definition of PTE. A temporary diesel generator would be necessary only if there were three successive breakdowns: 1) a grid outage, 2) the WTGs were unable to produce power on their own, and 3) the integrated battery backup system was affected by a fault or otherwise lacked sufficient power. All conditions happening simultaneously is an unlikely scenario and not considered a typical operating scenario by the Project. A similar scenario would be if a hurricane or other significant storm caused irreparable damage to multiple turbines, resulting in the need to remove and replace these turbines. This is not a scenario that is part of its operational design although there is a remote possibility something like this could occur. Neither scenario is something that is required to be permitted because these conditions are not inherently part of the design of the WTG. Therefore, for EPA to consider the emergency diesel fired generators as reason to find the WTG to be part of the OCS source is inconsistent with the definition of PTE.

3.2 SF_6 is not included within the definition of "air pollutant"

EPA has previously used the potential for fugitive emissions of SF_6 from the WTG switchgears as justification for categorizing the WTGs as meeting the definition of "emits or has the potential to emit any air pollutant". But the Project's WTGs will not use SF_6 in any fashion and therefore will not emit or have the potential to emit any SF_6.

But even if the switchgear on the turbines did contain SF_6, because SF_6 is not an "air pollutant" within the context of the OCS rule based on both EPA determinations and decisions by the US Supreme Court limiting

the definition of "air pollutant," the Project assumes its possible presence in the switchgear is not sufficient to cause the WTGs to be classified as part of the OCS source.

The OCS rules do not define the term "air pollutant," so the Project looked to how "air pollutant" has been defined in other contexts. In the preamble for publication of 40 CFR Part 55, EPA addressed whether the EPA's authority to regulate under Part 55 included non-criteria pollutants. EPA stated that it "interprets its regulatory authority under section 328 to be restricted to federal and state criteria pollutants, precursors to those pollutants, and pollutants regulated pursuant to PSD, and has accordingly limited its rule to these pollutants." *See* 57 FR 40792, 40804 (September 4, 1992).

This statement by EPA makes clear that it did not intend the term "air pollutant" within the OCS source context to include GHG. SF_6 is not a federal or state criteria pollutant. Since this criterion is not satisfied, and the Project looked to whether or not SF_6 is a pollutant regulated pursuant to PSD.

As just noted, the United States Supreme Court held in Utility Air Regulatory Group v. EPA, 573 US 302 (2014) that the Clean Air Act did not permit EPA's interpretation that the term "air pollutant" could be broadly construed to include GHG. The Court stated that a broader interpretation of "air pollutant" to include GHG would radically transform the PSD and Title V programs to make them unworkable. Only within the confines of sources that were already determined to be PSD major sources for other criteria pollutants was the EPA allowed to include PSD requirements applicable to GHG.

In response to the *Utility Air Group* decision, EPA revised the NSR provisions under which the PSD program is established to modify how GHG are regulated. See 81 FR 68110 (October 3, 2016). The definition of "Subject to regulation" for GHG was revised to state that GHG would not be subject to regulation except "as provided in paragraph (b)(49)(iv) of this section and shall not be subject to regulation if the stationary source maintains its total source-wide emissions below the GHG PAL level, meets the requirements in paragraphs (aa)(1) through (15) of this section, and complies with the PAL permit containing the GHG PAL."

Inclusion of SF_6 as an "air pollutant" in the OCS context also would be inconsistent with EPA's own narrow interpretation of "air pollutant" because it would be at odds with the Utility Air Group holding that EPA exceeded its discretion in attempting to treat GHG as an "air pollutant" under the CAA. Such an attempt to expand the definition of GHG to be considered an air pollutant in the OCS source context is analogous to EPA's prior attempt to do the same in the context of PSD. As a result, GHG cannot be considered an air pollutant for the purpose of the OCS source determination.

3.3 Changing the determination of an OCS source over the lifespan of a project is consistent with prior EPA interpretations.

EPA can and should consider that OCS source(s) during the construction and commissioning phase of the project may differ from OCS source(s) in the O&M phase. Indeed, the regulations recognize that some OCS sources may be temporary if they are "temporarily attached to the seabed…." 40 C.F.R. §55.2. EPA has as recently as 2021 found that an activity that was considered an OCS source at one phase of a project may cease being an OCS source at a later phase of the project if the activity no longer meets the definitions of OCS source at 40 C.F.R. §55.2. The same concept should apply to the Project's WTGs.

Exclusion of the non-emitting WTGs during O&M from the definition of an OCS Source is consistent with the Region 2 Garden State determination and the EPA 2021 Chevron determination. These determinations clearly indicate that there must be an air pollutant emitting activity present for a source to be classified as an OCS source. Once the emergency engines are removed from the WTG there are no air pollutant emitting activities. As noted above, any fugitive emissions from switchgear also are not in themselves sufficient to trigger PSD.

Once the commissioning diesel engines are removed and the O&M phase commences, Revolution Wind will not have any pollutant emitting activities at the WTG. Furthermore, as indicated by the Garden State

letter, if there is no OCS source, no emissions from the support vessels associated with the WTG will be included in the potential emissions of the Project, as the presence of an OCS source is a condition precedent for inclusion of the support vessels. EPA clearly stated, “For a vessel to service or associate with an OCS source, there must be equipment, an activity, or facility that meets the three defined OCS source criteria independent of such vessel.” Chevron Letter at Page 5.

The focus of the OCS determination is on the emissions of the equipment, activity, or facility. If the activity does not generate emissions, it cannot be aggregated as part of the OCS source and none of the vessels associated with such activity can be included in the potential emissions of the Project.

Nothing in the Vineyard Wind or South Fork OCS determinations contradicts the approach in the Garden State Letter and Chevron Letter. Instead, the Vineyard Wind and South Fork determinations are distinguishable because in both of those projects the WTG themselves had the potential to emit during the operational phase because of the permanent presence of emergency generators at the WTG.

Similarly, in those cases where EPA has made a single source determination for sources separated by more than 1/4 mile, EPA was aggregating each “emitting unit”, not portions of a facility under common control that did not generate emissions. See, e.g., Letter from Richard R. Long, Region VIII Director, Air and Radiation Program, to Jack Vaughn EnerVest San Juan Operating Co. (July 8, 1999) (“each compressor station with its associated emitting units…would be considered a single source for purposes of determining Title V applicability.”). But see Letter from Richard R. Long, Region VII Director, Air and Radiation Program, to Jeffer L. Ingerson, Senior Environmental Specialist, Questar Gas Management Company (August 7, 1998 (“EPA does not intend for a ‘source’ to include activities along a long-line operation; such as, pumping stations along a multi-state pipeline would not be considered a single stationary source.” (quoting 45 Fed. Reg. 52695) (August 7, 1980)).

4.0 CONCLUSION

During construction and commissioning, the Project will consider the WTG an OCS source (in addition to other aspects of the Project that meet the definition of an OCS source) and account for emissions as such.

During O&M, however, the WTG will cease to be an OCS source, and the OSS’s and jack-up vessels are the only activities that should be included in the OCS source. Consequently, potential emissions of the Project during O&M should be limited to emissions from the generators on the OSS, the jack-up vessel, and emissions from vessels enroute to and from the OSS or jack-up vessel when within 25 nautical miles of the OSS or jack-up vessel.